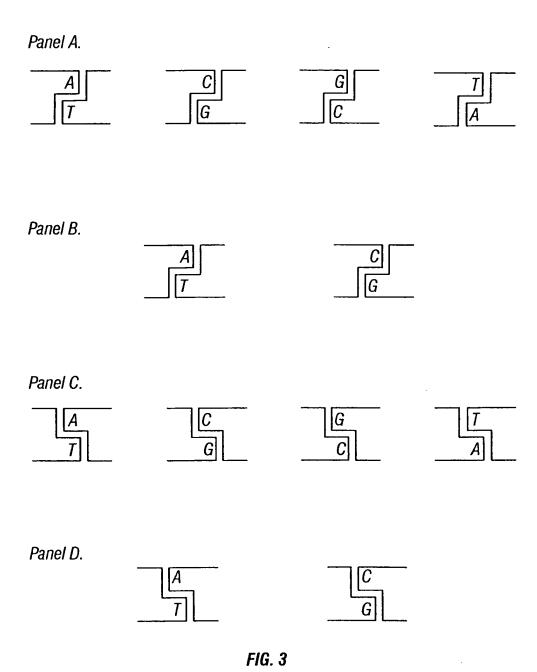
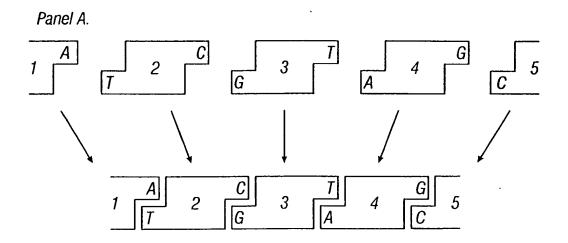


FIG. 2





Panel B.



FIG. 4A

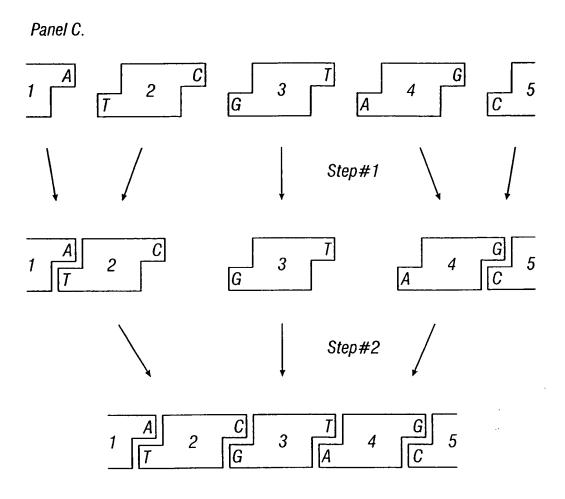


FIG. 4B

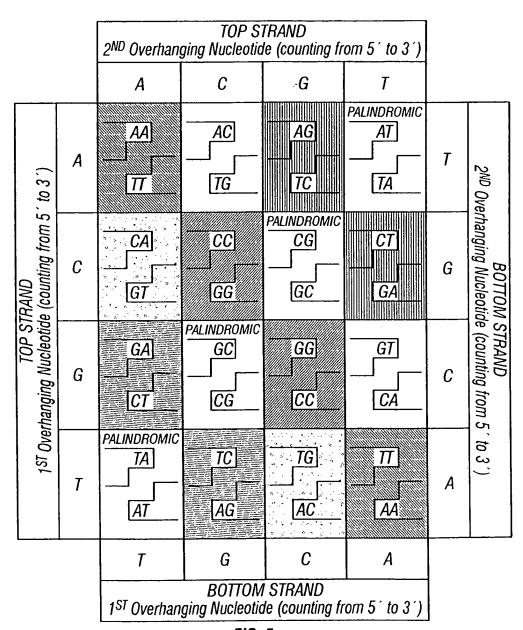


FIG. 5

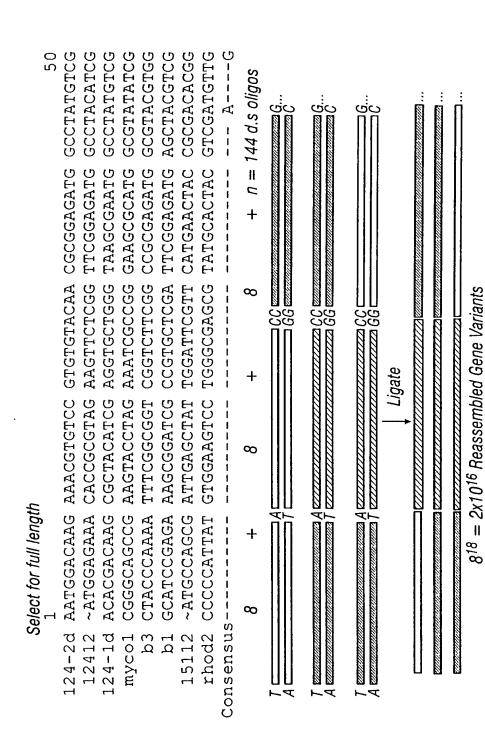


FIG. 6A

CCCCACGTCG CCCCACCTCG CCCCACGTCG CCCGACCTCG CCCGACGTCG TCCCACGTCG TCCGACCTCA CCCGACTICC -CC-AC-TC TTCACGGCAA TTCACGGCAA TCCACGGAAA AACACGGCAA AGCACGGCAA TGCACGGCAA IGCACGGCAA TGCACGGTAA --CACGG-AA GTGCTGTTCC GTTCTGTTTC ATCGTGTTCC ATCATTTCC ATCGTCTTTC ATCGTACTCT ATCGTGTTCC GTCGTGTTCC -L--L--L-GGGCGACCCG GGGTGATTCC GGGTGACGCC GGGAGCGCCG T...CITCCC GGGTGATCCC GGGGGACCCC TGGCACGCCT ACACGGGCCA ACGTGGGAGA ACGAAGGCAA ATACCGGCGA AAGTGGGACG GCGTCGGCGA GACCGCGGGA AGATGGGCGA ---8---

F/G. 6B

Represents 15% of gene

TCGCCCGATG TGGGACGCTG TCGGTCGCTG TAGGCCGCTG AGCACCGGTG TGGCCGGCT ACGGCAGATG GTGACGGACG GTTGCCGGCT TTGGAAGGGC CTGGCGCCGT GICGCIGGCC GTAGCACCGA GTGCAACAGC CTCGCGGATC GATTCCCCAC CATGCCCCAT CATGCCGCAC GTTGCCGCAC GATCCCGCAC CATCCCGCAT AATGCCTTTT CATCCCCTAT ---DD-L--GGCGCAACAT GGCCAACGT SGCGCAACAT GGCGCAACGT GGCGCAACAT T-0---9-99 GGAGGGGCGT GGGGGAACGT GGCGCAACAT TCGTACCTGT TCCTACCTGT TCGTATCTGT TCGTACCTGT TCTTACTTGT TCGTACCTCT TCCTATCTTT TCTCACGTCT TC--A--T-T

FIG. 6C

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CCGT	GCGTTGCCGT	GCGTTGCCGT	GCGTGGCCGT		GTTTTAGCGA	GTGCTGGCCA	GTGATGGAGA		CGGCCTGCCC	CGGCCTGCCG	CGGCCTGCCC		GCATCATGTA	GCATCATGTA	GCATCATGTA		GAGGAG	GGTGAAGAGA	GGCGAAGAGA		GGGCGTGTTC	GGGCGTGTTC	<u> </u>
	909	909	909	GI	GTIT	GTG	GTG	CGG	990	000	CGG		GCA	GCA	GCA	ტ	ည	GGT		GGG	999	999	GGG
	GACACGGTCG	GACACGGTCG	GATTGCGTGG	GAG	CAAGGCGGAG	CAAGGCTGAG	CCGCGCGGAG		GCATGAAGAC	GCATGAAGAG	GCATGAAGCG	CCACG	TCGACCCACG	TCCACCCACG	TCCACCCACG	CCC	CGTCGTGCCC GGCGAGGAGA	GACGGTGCCG	GGCCATTCCG	ტ	CGAAAGTCTG	CCAAGGICIG	CCAACGTATG
	ATCGAGC <u>AAT</u>	ATCGAGCAAT	CAGCAGCAAC		GCCTTCATAC	GGCTTCACAC	GGCTGCATAC		ATGATCGTCG	ATGCTGGTCG	ATGGTCGTGG		CCCGGAATAT	CCCGGAATAT	CCCCGAGTAC		ATACCGCGTC	ACACGGCGTC	AAACCGCTTC		TGCCGCAAGG	TGCCGCAAGG	TGCCGCAAGG
	GCGATATTTC	GCGACATTTC	GAGATATCTC		AAGATGCCTC	AAGATGCCGC	AAGATGCCGC		GATCGGC <u>GAG</u>	GATCGCCGAC	GATCGCCGAC		TGGTGATCTT	TGGTGATCTT	TGGTCATCTT		GAAATGTACG	GAGATGTACG	GAAATGTACG		TGCCGAA <u>GCC</u>	CGCCGAGGCC	CGCCGACGCC
NCOI	CATGATGCACG	CATGCATCACG	CATGAGACACG		CGTGAACTAC	CGTGAACTAC	CGTGAACTAC		ACGCCAGAAA	ACTGCCGCAA	ACGCCCGCAA		GGAATGGATC	GGAATGGATC	GGCATGGACC		CGACTCC <u>AAG</u>	CGACTCCAAG	CGACGCCAAG		CCGAGATTTT	CCGAGATTTT	CTGCTGTGTT
	150am13_00	150AM7 001	431am7_002	Ĭ	150am13 00	150AM7 001	431am7_002		150am13 00	150AM7 001	431am7_002		150am13_00	150AM7_001	431am7 002		150am13_00	150AM7_001	431am7 002		150am13_00	150AM7_001	431am7_002

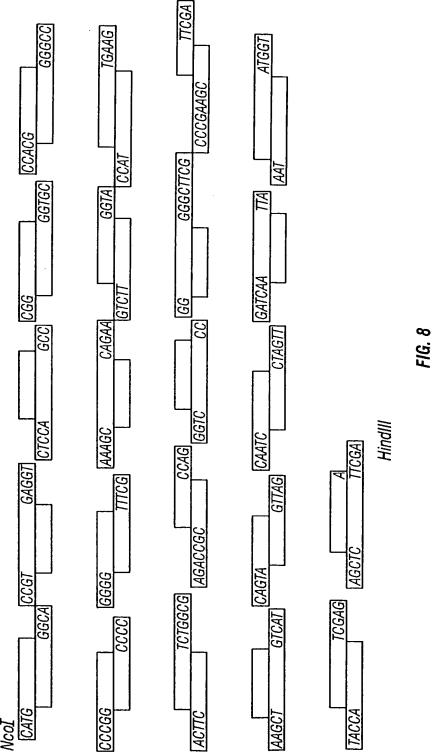
GGCCCTACAA	CGCCGTACAA	GGCCGTACAA	AA	AAATACCGCA	AAATATCGCA	AAGTACCGCA	!	CAACTGCACC	CAACTGCACG	CGATTGCACC		TCATCTGCGA	TCATCTGCGA	TCATCTGCGA		AAGGGCGCCG	AAGGGCGCCG	500505555		GGACCAG <u>CAG</u>	GGATCAGCAG	GGACCAGCAG
CCGAAGAAGG	CCCAATAAAG	CCGAACAAGG	CAG	GGTGGTCCAG	AGTCGTTCAG	GATCGTGCAG	GGTA	GGTACCCCGG	GGTATCCCGG	GGTATCCGGG		GTTTCGCTGA	ATGTCGCTGA	ATCAGCCTCA		CTGCGCCATG	CTGCGCGATG	TTGCGCCATG		ATCCGGCCAA	ATCCCGCCAA	ACCCGGCCAA
CGAGGAACAT	CGAGGAGCAT	CGAAGAGCAC		ACAAGGGCGA	ACAAGGGTGA	ACAAGGGCGA		ATCGAGGGCT	ATCGAAGGCT	ATCGAAGGCT	TGAAG	GGGCATGAAG	GGGCATGAAG	GGGACTGAAG	TCTGGCG	TCTGGCGCGA	TCTGGCGTGA	TCTGGCGCGA		GGCTACATGT	GGCTACATGT	GGATACATGT
GCGAACGTCA	GCGAGCGCCA	GCGAGCGCCA		CTGATGAACG	CTGATGAACG	CTGATGAACA		GTGGGTTCCG	GTGGGTGCCG	CIGGGIGCCG		ACGGGCCGAA	AAGGCCCGAA	AAGGCCCCCAA		TATCCGGAAA	TACCCGGAAA	TACCCCGAGA	CCAG	GCGCTGCCAG	CCGCTGCCAG	GCGTTGCCAG
TCGCTCACCG	TCGCTGACCG	TCGCTGACGG		CACGCTG <u>ATC</u>	CACCCTGATC	CACGCTCATC		AGATCATGCC	AGATCATGCC	AGATCATGCC		TACGTCTCCG	TACGICICCG	TATGTGTCGG		TGACGGC <u>AAC</u>	CGACGGCAAC	CGACGGCAAT		AGCTGATCGT	AACTGATCAT	AGCTGATCGT
150am13_00	150AM7_001	431am7_002		150am13_00	150AM7_001	431am7_002		150am13_00	150AM7_001	431am7_002		150am13_00	150AM7_001	431am7_002		150am13_00	150AM7_001	431am7_002		150am13_00	150AM7_001	431am7_002
	TCGCTCACCG GCGAACGTCA CGAGGAACAT CCGAAGAAGG	TCGCTCACCG GCGAACGTCA CGAGGAA <u>CAT</u> CCGAAGAAGG TCGCTGACCG GCGAGCGCCA CGAGGAGCAT CCCAATAAAG	TCGCTCACCG GCGAACGTCA CGAGGAA <u>CAT</u> CCGAAGAAGG TCGCTGACCG GCGAGCGCCA CGAGGAGCAT CCCAATAAAG TCGCTGACGG GCGAGCGCCA CGAAGAGCAC CCGAACAAAG	TCGCTCACCG GCGAACGTCA CGAGGAA <u>CAT</u> CCGAAGAAGG TCGCTGACCG GCGAGCGCCCA CGAGGAGCAT CCCAATAAAG TCGCTGACGG GCGAGCGCCCA CGAAGAGCAC CCGAACAAGAGG	TCGCTCACCG GCGAACGTCA CGAGGAA <u>CAT</u> CCGAAGAAGG TCGCTGACCG GCGAGCGCCA CGAGGAGCAT CCCAATAAAG TCGCTGACGG GCGAGCGCCA CGAAGAGCAC CCGAACAAGG CACGCTGATC CTGATGAACG ACAAGGGCGA GGTGGTC <u>CAG</u>	TCGCTCACCG GCGAACGTCA CGAGGAACAT CCGAAGAAGG TCGCTGACG GCGAGCGCCA CGAGGAGCAT CCCAATAAAG TCGCTGACG GCGAGCGCCA CGAAGAGCAC CCGAACAAGG CACGCTGATC CTGATGAACG ACAAGGGCGA GGTGGTCAGGCCACCTGATCAACG ACAAGGGTGA AGTCGTTCAG	TCGCTCACCG GCGAACGTCA CGAGGAACAT CCGAAGAAGG TCGCTGACG GCGAGCGCCA CGAGGAGCAT CCCAATAAAG TCGCTGACGG GCGAGCGCCA CGAAGAGCAC CCGAACAAGAGG CACGTGATC CTGATGAACG ACAAGGGCGA GGTGGTCCAG CACCCTGATC CTGATGAACG ACAAGGGTGA AGTCGTTCAG CACGCTCATC CTGATGAACA ACAAGGGCGA GATCGTTCAG	TCGCTCACCG GCGAACGTCA CGAGGAACAT CCGAAGAAGG TCGCTGACCG GCGAGCGCCA CGAGGAGCAT CCCAATAAAG TCGCTGACGG GCGAGCGCCA CGAAGAGCAC CCGAACAAGG TCGCTGATC CTGATGAACG ACAAGGGCGA GGTGGTCAG CACCCTGATC CTGATGAACG ACAAGGGTGA AGTCGTTCAG CACGCTCATC CTGATGAACA ACAAGGGCGA GATCGTTCAG CACGCTCATC CTGATGAACA ACAAGGGCGA GATCGTTCAG GACGCTCATC CTGATGAACA ACAAGGGCGA GATCGTGCAG	TCGCTCACCG GCGAACGTCA CGAGGAACAT CCGAAGAAGG TCGCTGACG GCGAGCGCCA CGAGGAGCAT CCCAATAAAG TCGCTGACG GCGAGCGCCA CGAAGAGGCAC CCGAACAAGAGG CACGTGATC CTGATGAACG ACAAGGGCGA GGTGGTCCAG CACGCTGATC CTGATGAACG ACAAGGGTGA AGTCGTTCAG CACGCTCATC CTGATGAACA ACAAGGGCGA GATCGTTCAG CACGCTCATC CTGATGAACA ACAAGGGCGA GATCGTTCAG CACGCTCATC CTGATGAACA ACAAGGGCGA GATCGTTCAG GGTA AGATCATGCC GTGGGTTCCG ATCGAGGGCT GGTA	TCGCTCACCG GCGAACGTCA CGAGGAACAT TCGCTGACCG GCGAGCGCCA CGAGGAGCAT TCGCTGACGG GCGAGCGCCA CGAAGAGCA TCGCTGATCGAGCGCCA CGAAGAGCAC CACGCTGATC CACGCTGATC CACGCTGATC CACGCTGATC CACGCTGATC ACAAGGGCGA ACAAGGGCGA ACAAGGGCGA AGATCATGCC AGATCATGCC AGATCATGCC AGATCATGCC AGATCCCGG AGATCCCCGC AGATCCCCGC AGATCCCCGC AGATCCCCCGC AGATCCCCCGC AGATCCCCCCCCCC	TCGCTCACCG GCGAACGTCA CGAGGAACAT CCGAAGAAGG TCGCTGACG GCGAGCGCCA CGAGGAGCAT CCCAATAAAG TCGCTGACG GCGAGCGCCA CGAAGAGCAC CCGAACAAGG CACGTGATC CTGATGAACG ACAAGGGTGA AGTCGTTCAG CACGCTCATC CTGATGAACG ACAAGGGTGA AGTCGTTCAG CACGCTCATC CTGATGAACA ACAAGGGTGA GATCGTGCAG AGATCATGCC GTGGGTTCCG ATCGAAGGCT GGTACCCCGG AGATCATGCC CTGGGTGCCG ATCGAAGGCT GGTATCCCGG	TCGCTCACCG GCGAACGTCA CGAGGAACAT TCGCTGACCG GCGAGCGCCA CGAGGAGCAT TCGCTGACG GCGAGCGCCA CGAAGAGCAC TCGCTGATC CACGCTGATC CACGCTGATC CACGCTGATC CACGCTGATC CACGCTGATC CACGCTGAC CACGCTGATC CACGCTGAC ACAAGGGCGA CACGCTCATC CTGATGAACG ACAAGGGCGA CACGCTCATC CTGATGAACG ACAAGGGCGA AGTCGTTCAC AGATCATGCC GTGGGTGCCG AGATCATGCC TGAGGTGCCG AGATCATGCC TGAGGTGCCG AGATCATGCC TGAGGTGCCG AGATCATGCC TGAGGTGCCG AGATCATGCC TGAGGTGCCG AGATCATGCC TGAGGTGCCG AGATCATGCC TGAAGGCCTCGG AGATCATGCC TGAGGTGCCG AGATCATGCC TGAAGAGCCT TGAAG TGAAGCCCCGG AGATCATGCC TGAAGAGCCT TGAAGCCCCGG AGATCATGCC TGAAGAGCCT TGAAGACCCCGG AGATCATGCC TGAAGAGCCT TGAAGACCCCGG AGATCATGCC TGAAGAGCCT TGAAGACCCCGG AGATCATGCC TGAAGACCCCCGC AGAAGACCATCATCAGAAGCCT TGAAGACCCCCGC AGAACCCCCGC AGAACCCCCGC AGAACCCCCAATAAACCCCCCCCCAATAAACCCCCCCCCC	TCGCTCACCG GCGAACGTCA CGAGGAACAT TCGCTGACCG GCGAGCGCCA CGAGGAGCAT TCGCTGACG GCGAGCGCCA CGAAGAGCA TCGCTGATC CACGCTGATC CACGCTGATC CACGCTGATC CACGCTGATC CACGCTGATC CACGCTCATC CACGCTCATC CACGCTCATC CACGCTCATC CACGCTCAC CACGCTCAC AGATCATGC A	TCGCTCACCG GCGAACGTCA CGAGGAACAT TCGCTGACCG GCGAGCGCCA CGAGGAGCAT TCGCTGACG GCGAGCGCCA CGAGGAGCA TCGCTGACG GCGAGCGCCA CGAAGAGG CACGCTGATC CAGGCGCCCA CAGGGCGCCA CAGGGTGAC CAGGGTGAC AGATCATGAC AGATCATGC AGGCCCGAA AGATCATGC AGATCATG	TCGCTCACCG GCGAACGTCA CGAGGAACAT TCGCTGACCG GCGAGCGCCA CGAGGAGCAT TCGCTGACGG GCGAGCGCCA CGAGGAGCA CCCAATAAAG TCGCTGACGG GCGAGCGCCA CGAAGAGCA CACGCTGATC CACGCTGATC CACGCTGATC CACGCTGATC CACGCTGATC CACGCTGATC CACGCTGAC CACGCTGAC CACGCTGAC CACGCTGAC CACGCTGAC CACGCTGAC CACGCTGAC ACAAGGGCGA CACGCTCATAAAC CACGCTCAC CACGCACACAGC CACGCTCAC CACGCT	TCGCTCACCG GCGAACGTCA CGAGGAACAT TCGCTGACCG GCGAGCGCCA CGAGGAGCAT TCGCTGACG GCGAGCGCCA CGAGGAGCA CCCAACAAGGCCAC CCGAACAAGGCCAC CCGAACAAGGCCAC CCGAACAAGGCCAC CCGAACAAGGCCAACAAGGCCAACAAGGCCAACAAGGCCAACAA	TCGCTCACCG GCGAACGTCA CGAGGAACAT TCGCTGACCG GCGAGCGCCA CGAGGAGCAT CCCAATAAAG TCGCTGACG GCGAGCGCCA CGAAGGCAC CAGGCTCATC CACATGAACG CACACTGATC CTGATGAACG ACAAGGGTGA CACACTCATC CTGATGAACA ACAAGGGTGA CACACTCATC CTGATGAACA ACAAGGGTGA GGTA AGATCATGC AGATCATGC AGATCATGC AGATCATGC AGATCATGC ATCGAGGCC ATCGAGGCC AGATCATGC AGATCATGC ATCGAGGCC ATCGAGGCC ATCGAGGCT AGATCATGC ATCGAGGCC ATCGAGGC ATCGAGGCC ATCGAGCC ATCGAGGCC ATCGAGCC ATCGAGGCC ATCGAGCC ATCGAGGCC ATCGAGGCC ATCGAGGCC ATCGAGGCC ATCGAGCC ATCGACC ATCG	TCGCTCACCG GCGAACGTCA CGAGGAACAT TCGCTGACGG GCGAGCGCCA CGAGGAGCAT TCGCTGACGG GCGAGCGCCA CGAGGAGCA CCCAATAAAG TCGCTGACGG GCGAGCGCCA CGAAGAGCCA CGAAGAGGC CACGCTGATC CTGATGAACG ACAAGGGCGA AGTCGTTCAG CACGCTCATC CTGATGAACG ACAAGGGCGA AGTCGTTCAG CACGCTCATC CTGATGAACG ACAAGGGCGA GATCGTTCAG CACGCTCATC CTGATGAACG ACAGGGCGA GATCGTCCGG AGATCATGCC GTGGGTGCCG ATCGAAGGCT GGTATCCCGG AGATCATGCC GTGGGTGCCG ATCGAAGGCT GGTATCCCGG AGATCATGCC GTGGGTGCCG ATCGAAGGCT GGTATCCCGG AGATCATGCC ACGGGCCGAA GGGCATGAAG TACGTCTCCG ACGGCCCGAA GGGCATGAAG TACGTCTCCG AAGGCCCGAA GGGCATGAAG TACGTCTCCG AAGGCCCGAA GGGCATGAAG TATGTGTCGG AAGGCCCCAA GGGCATGAAG TATGTGTCGGAAA TCTGGCGCGATG CGACGCAAC TCTGGCGCAAC TATCCGGAAA TCTGGCGCGATG CGACGCAAC CGACGCCAAC TCTGGCGCAAC CTGCGCCATGAAG TCTGGCGCAAC TACCCGGAAA TCTGGCGCGATG	TCGCTCACCG GCGAACGTCA CGAGGAACAT TCGCTGACCG GCGAGCGCCA CGAGGAGCAT CCCAATAAAG TCGCTGATC CCGAGCGCCCA CGAAGAGCA CCACGCTGATC CCAAGAGGCCCA CGAAGAGCA CACGCTGATC CTGATGAACG ACAGGGCTGA AGTCGTTCAG CACGCTCATC CTGATGAACG ACAGGGCTGA AGTCGTTCAG CACGCTCATC CTGATGAACG ACAGGGCTGA GGTACCCCGG AGATCATGCC GTGGTTCCG ATCGAAGGCT GGTACCCGG AGATCATGCC ACGGCCCGAA GGCCATGAAG TACGTCTCCG ACGGCCGAA GGCATGAAG TACGTCTCCG ACGGCCGAA GGCATGAAG TACGTCTCCG ACGGCCGAA GGCATGAAG TACGTCTCCG ACGGCCCAA GGCATGAAG TACGTCTCCG AAGGCCCGAA GGCATGAAG TTCGGCAAC TGACGGCAAC TCTGGCGCCAA CGACGCCAAC TCTGGCCGCAA CCACGCCAAC CCAAGAAGCCCCAAC CCAAGAAGCCCCAAC CCAAGAAGCCCCAAC CCAAGACCCCAAC CCAAGAAGCCCCAAC CCAAGAAGCCCCAAC CCAAGAACCCCCAA CCAAGACCCCAAC CCAAGAACCCCGAA CCAAGCCCCAA CCAAGACCCCCAA CCAAGACCCCCAA CCAAGCCCCAA CCAAGCCCCAA CCAAGCCCCAA CCAAGCCCCAA CCAAGCCCCAA CCAAGCCCCAA CCAAGCCCCCAA CCAAGCCCCAA CCAAGCCCCAAC CCAAGCCCCAA CCAAGCCCCAA CCAAGCCCCAA CCAAGCCCCAA CCAAGCCCCAAC CCAAGCCCCAA CCAAGCCCCAA CCAAGCCCCAA CCAAGCCCCAA CCAAGCCCCAAC CCAACCCCAAC CCAACCCCAAC CCAACCCCCAAC CCAACCCCCACAC CCAACCCCCAAC CCAACCCCCC	TCGCTCACCG GCGAACGTCA CGAGGAACAT TCGCTGACCG GCGAGCGCCA CGAGGAGCAT TCGCTGACG GCGAGCGCCA CGAGGAGCAT CCCTGACG GCGAGCGCCA CGAGGAGCA CCCTGATC CACGCTCATC CTGATGAACG ACAGGGCGA GGTGGTCAG CACGCTCATC CTGATGAACG ACAGGGCGA AGTCGTTCAG CACGCTCATC CTGATGAACG ACAGGGCGA AGTCGTTCAG CACGCTCATC CTGATGAACG ACAGGGCGA GGTGTTCCGG AGATCATGCC GTGGGTTCCG ATCGAAGGCT GGTATCCCGG AGATCATGCC ACGGCCGAA GGCCATGAAG TACGTCTCCG ACGGCCCGAA GGCCATGAAG TACGTCTCCG ACGGCCCGAA GGCCATGAAG TACGTCTCCG ACGGCCCGAA GGCCATGAAG TACGTCTCCG TGGGTGCCGAA TCTGGCGCCCAA TCTGGCCGCAA TCTGGCCCCAA CGACGCCAAC TCTGGCGCCCAA TCTGGCCGCAA CGACGCCAAC TCTGGCGCCAA TCTGGCCGCA CGACGCCAAC CGACGCCAAC CGACGCCAAC TACCCCGAAA TCTGGCCGCA CGACGCCAAC CGACGCCAAC CCAACGAAC CAACGCCCCAA CACGCCCCAA CACGCCCCAA CACGCCCCAA CCCAACAAGC CCCAATAAAC CACGCCCCAA CACGCCCCAA CACGCCCCAA CACGCCCCAA CACCCCCAATAAAC CACGCCCCAA CACGCCCCAA CACGCCCCAA CACGCCCCAA CACCCCCAACAAC CCCAACCAA	TCGCTCACCG GCGAACGTCA CGAGGAACAT TCGCTGACCG GCGAGCGCCA CGAGGAGCAT TCGCTGACG GCGAGCGCCA CGAGGAGCAT TCGCTGACG GCGAGCGCCA CGAGGAGCAC CACGCTGATC CACGCTGATC CTGATGAACG ACAGGGCGA GGTGCTCCAG CACGCTCATC CTGATGAACG ACAGGGCGA GATCGTGCAG CACGCTCATC CTGATGAACA ACAGGGCGA GATCGTGCAG CACGCTCATC CTGATGAACA ACAGGGCGA GATCGTGCAG AGATCATGCC GTGGGTGCCG ATCGAAGGCT AGATCATGCC GTGGGTGCCG ATCGAAGGCT TACGTCTCCG ACGGCCCGAA GGGCATGAAG TACGTCTCCG ACGGCCCGAA GGGCATGAAG TACGTCTCCG AAGGCCCGAA GGGCATGAAG TATGTGTCGG AAGGCCCCAA GGGCATGAAG TATGTGTCGG AAGGCCCCAA GGGCATGAAG TCTGGCGCAAC TCTGGCGCAAC TCTGGCGCAAC TCTGGCGCAAC TCTGGCGCAAC TCTGGCGCAAC TCTGGCGCAAC TCTGGCGCAAC CGACGGCAAC TCTGGCCCAAC TCTGGCCCAAC TCTGGCCCAAC TCTGGCCCAAC TCTGCCCAAC TCTGGCCCAAC TCTGCCCAAC TCTGCCCCAAC TCTGCCCCCAAC TCTGCCCCCAAC TCTGCCCCCAAC TCTGCCCCCAAC TCTGCCCCCAAC TCTGCCCCCAAC TCTCCCCCAAC TCTCCCCCCAAC TCTCCCCCAAC TCTCCCCCAAC TCTCCCCCCAAC TCCCCCCCC	TCGCTCACCG GCGAACGTCA CGAGGAACAI CCGAAGAAGG TCGCTGACCG GCGAGCGCCA CGAGGAGCAT CCCAATAAAG TCGCTGACG GCGAGCGCCA CGAAGAGGCAC CGCAACAGGCCAC CGAAGAGGC CACGCTGATC CTGATGAACG ACAAGGGTGA AGTCGTTCAG CACGCTCATC CTGATGAACG ACAAGGGTGA AGTCGTTCAG CACGCTCATC CTGATGAACA ACAAGGGTGA AGTCGTTCAG CACGCTCATC CTGATGAACA ACAAGGGTGA GGTA AGATCATGCC GTGGGTGCCG ATCGAAGGCT GGTACCCCGG AGATCATGCC GTGGGTGCCG ATCGAAGGCT GGTATCCCGG AGATCATGCC GTGGGTGCCG ATCGAAGGCT GGTATCCCGG AGATCATGCC GTGGGTGCCG ATCGAAGGCT GGTATCCCGG AGATCATGCC GTGGGTGCCG ATCGAAGGCT GGTATCCCGG AGATCATGCC ACGGCCCGAA GGGCATGAAG TACGTCTCCG AAGGCCCGAA GGGCATGAAG TACGTCTCCG AAGGCCCGAA GGGCATGAAG TACGTCTCCG AAGGCCCGAA GGGCATGAAG TCTGGCGCAAC TTCGCCCATG CGACGCCAAC TACCCGGAAA TTCCGCCCATG CGACGCCAAC TACCCGGAAA TCTGGCCGATG CCACGCCAAC TACCCGGAAA TCTGGCCCATG CCACGCCAAC TACCCGGAAA TCTGGCCCATG CCACGCCAAC TACCCGGAAA TCTCGCCCATG CCACGCCAAC TACCCGGAAA TCTCGCCCATG AACTGATCGT GCCCCAAGG AACTGATCAT CCCCGAAA ATCCCGCCAAG AACTGATCGT CCCCGAAA TCTCGCCCAAG AACTGATCGT CCCCGAAA TCTCGCCCAAG AACTGATCAT CCCCGAAA TCTCCGCCCAA

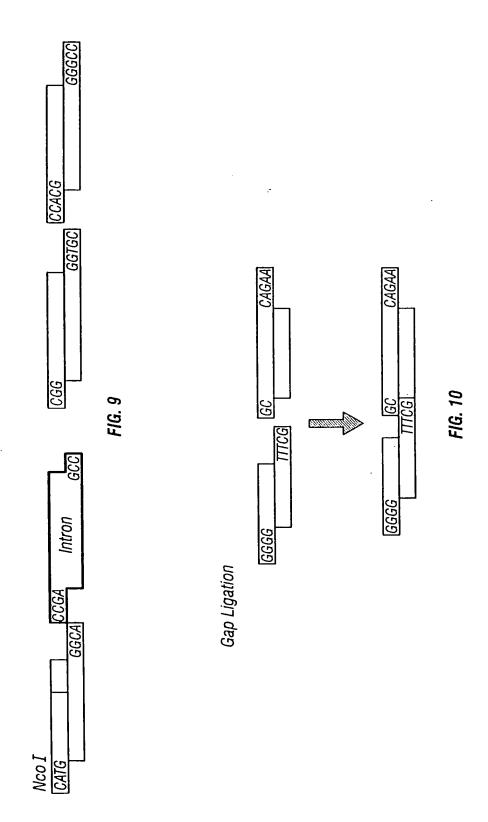
FIG. 7B

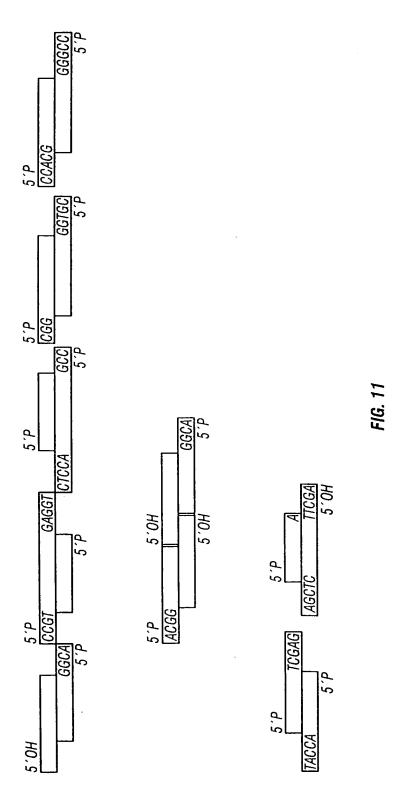
ACGTCGCGGT	GGCCACTCGG	CGAGGAA <u>GAA</u>	GCGACGCCCG	CATCGTGGCT	CGCGGCC <u>TGT</u>
ATGTCGCGGT	GGCCATTCGG	CGAGGAGGAT	GCGACGCGCG	CACCGTGGCT	CGCGGCTTGC
ACGTGGCGGT	GGCCATTCGG	TGAAGAAGAC	GCGACGCGCG	CACCGCGGCT	CGCGGCATGC
AACAACGTTT AACAACGTTT	TTCGTAT <u>TTC</u> CTCGTATTTC TTCCTACTTC	GCGAATGCGG GCGAATGCGG GCGAATGCGG	ATGCTGATCC TCGCTGATCC AGCCTGATCC	CAAGCTG <u>GTG</u> CAAGCTGGTG CAAGCTGGTG	ACCGCGGTCT ACCGCGGTGT CCACCGGCGT
GGCGTGG <u>GCG</u>	ATGGCGTCTA	CGCACGCTCG	GCTTTCG <u>AAG</u>	ACCATCTCTT	GGCGAGGGCG
GGCCTGGGCC	ACGGCGTCTA	CGTACCCTCG	CATCTCCAAG	ACCATCTCTT	GGCGAGGGCG
GGCGTGGATG	ACGGCGTGTA	CGCACGCTGG	GCTCTCCACC	ACCACTTGTT	GGCGAAGAGGG
GCGAAGGGGAT CGAAAGCAAT CCAAGGCCAT	GCGGGCTTCG TCGGGCTTCG GCGGGCTTCG	CTTCGATGGC CTTCGACGGC CTTCGACGGC	AGTATGCCCA AGTATGCCGC AGTACGCCGA	CAATCGGAAA CAATCGGAAA CAGTCGCAGA	
GTCATCATGG	TTCCAAT <u>GCC</u>	CGATCATCGG	TACGGCATCC	CCGCACC <u>GGA</u>	ACACCGGGTT
GTGCTGATGG	CGCCAATGCC	CGATCATCGG	TATGGCATCC	CCGCACCGGC	ACACCGGCAT
GTCATGGTGT	GGCCAATGCC	CCATCATCGG	ATGGGCGTGC	CAAGAACATG	ACACCGGCAA
150am13_00	150am13_00	150am13_00	150am13_00	150am13_00	150am13_00
150AM7_001	150AM7_001	150AM7_001	150AM7_001	150AM7_001	150AM7_001
431am7_002	431am7_002	431am7_002	431am7_002	431am7_002	431am7_002

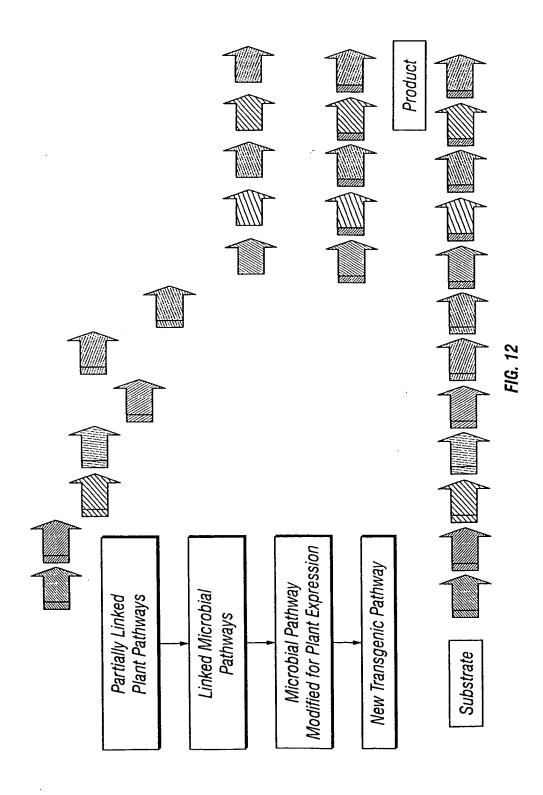
	contrangagn ictacaacaa atggatc <u>gcc</u> gatccggaag gcacccgcga	TCTATTCGAA ATGGATCGCC GATCCCGAGG GTACACGCGA	GCACGCGCAA		TCCTTTACCC GGCCGACGGT GGGAACCGAT GAAGCGCCCA	TCCTTCACGC GTCCGACGGT GGGTGTGGAG GAATGCCCGA	TCCTTCACCC GGTCCACCGT GGGCACGCCG GAGTGCCCCA		aagct	aagct	aagct	HindIII
	GATCCGGAAG	GATCCCGAGG	GATCCGGAGG		GGGAACCGAT	GGGTGTGGAG	GGGCACGCCG		ACCGCTGA	ACCGCTGA	ACCGCTAG	
	ATGGATC <u>GCC</u>	ATGGATCGCC	TCTACGCCAA CTGGATCAAC GATCCGGAGG GCACGCGCAA		GGCCGACGGT	GICCGACGGI	GGTCCACCGT		TCGAAGGCAT CCCGAACAAG GTCGCGGTGC ACCGCTGA	TCGAGGGCAT TCCGAACAAG GCCACCACGC ACCGCTGA	TGGACGGCAT CCCCAACGAG GACGCCAAGC ACCGCTAG	
	TCTACAACAA	TCTATTCGAA	TCTACGCCAA			TCCTTCACGC	TCCTTCACCC		CCCGAACAAG	TCCGAACAAG	CCCCAACGAG	
TTA	CCTTATGAGT	CCGTATGATT	CCGTACAACT	ATGGT	AATGGTCGAG	GATGGTGGAA	GATGGTCGAA	TCGAG	TCGAAGGCAT	TCGAGGGCAT	TGGACGGCAT	
	150am13_00	150AM7 001	$431am7_002$		150am13 00	150AM7 001	431am7_002	ļ	150am13_00	150AM7 001	431am7_002	

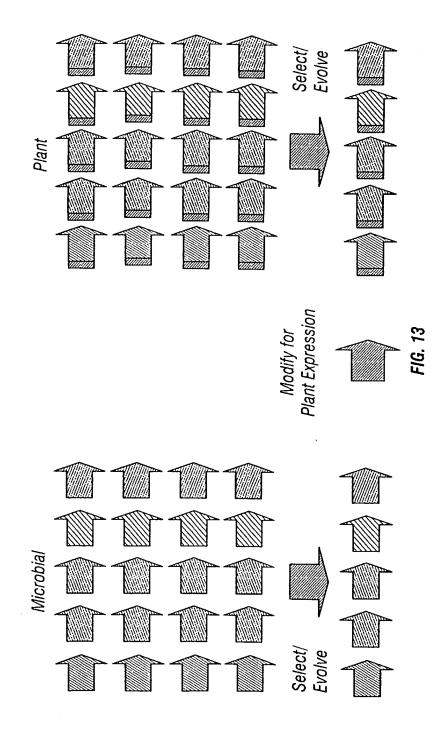
FIG 71

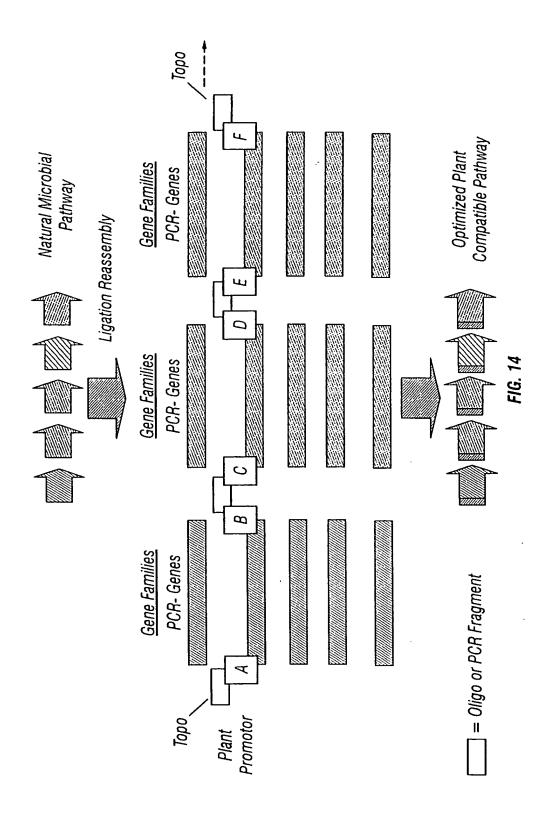


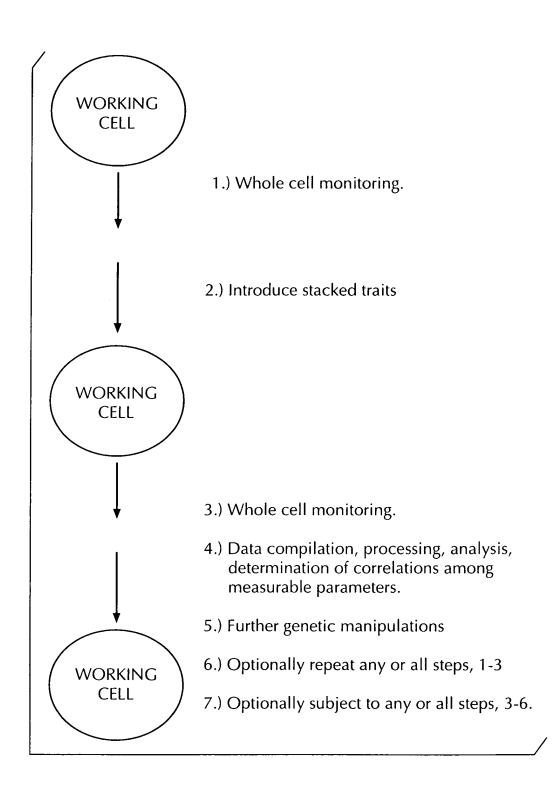


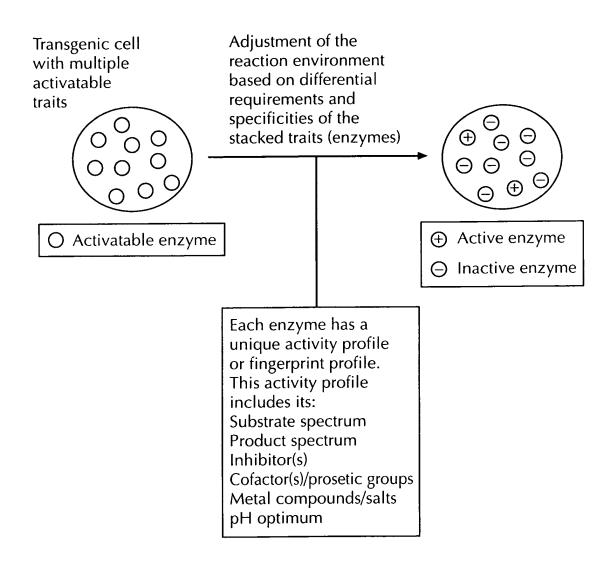


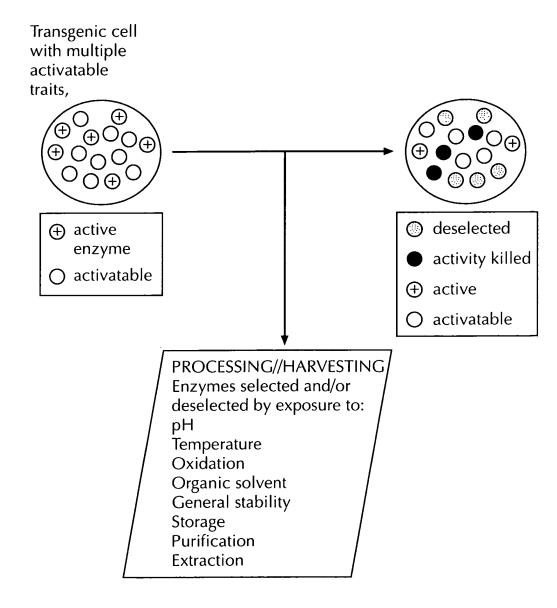






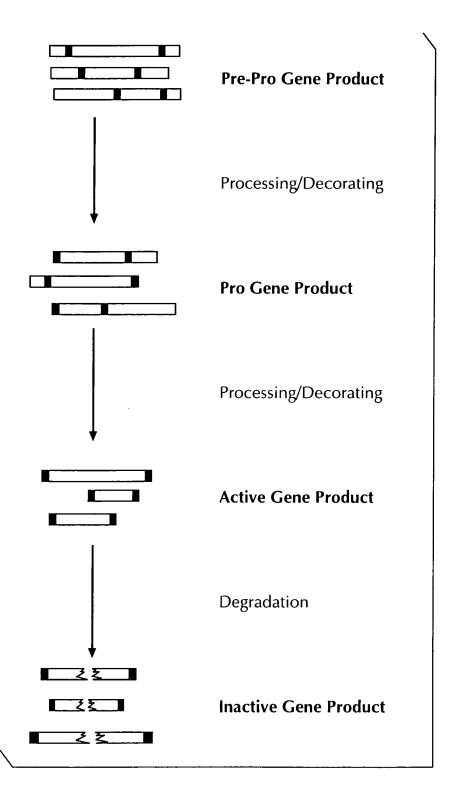






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FIG. 18



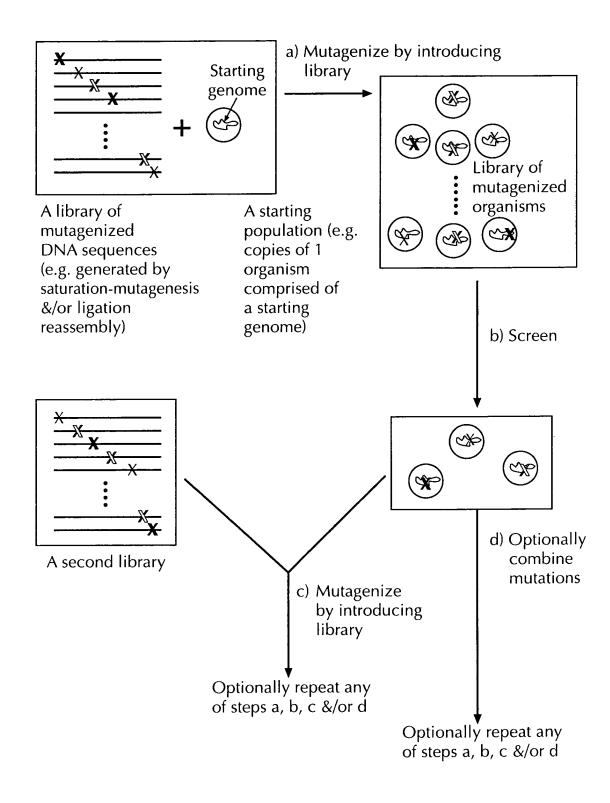
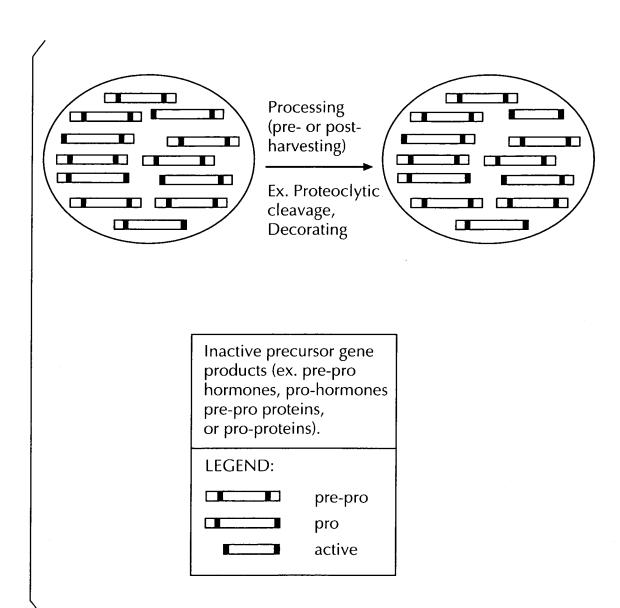
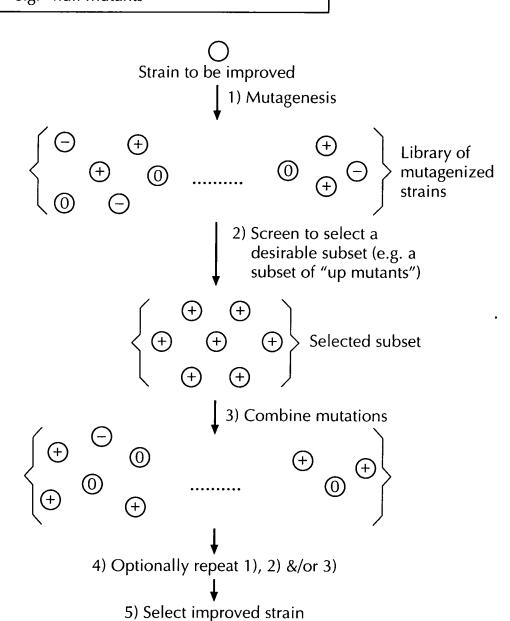


FIG. 20



- (+): Represents strains improved in one or more ways e.g. "up mutants"
- Represents strains with adverse mutations e.g. "down mutants"
- (iii): Represents strains with no improvement e.g. "null mutants"



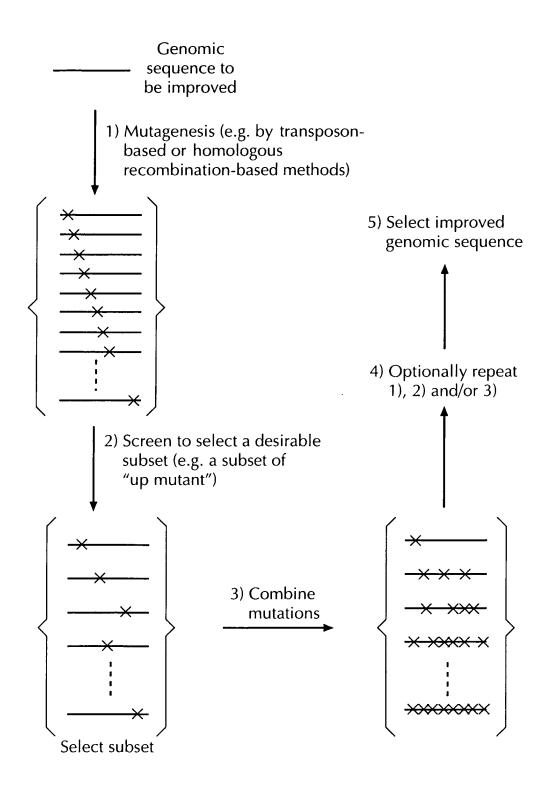


FIG. 23

